

Developing Hydroelectric Projects in West Virginia

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- Founded 2004 to develop hydroelectric projects on existing dams
- 1st project was in western Pennsylvania
 - Operational in December 2013



- 6MW on Mahoning Creek Dam
- Took 9 years to develop, license & construct



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Current AHS Projects in WV



Jennings
Randolph Dam

Tygart Dam



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Jennings Randolph Project

- North Branch Potomac in Mineral County
- 14MW; 56,000MWh; \$43million to construct
- Corps of Engineers Dam, Baltimore District
- Advanced stage development



- Enough to power 6,000 homes with clean renewable energy



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Tygart Dam

- Tygart River in Grafton, Taylor County
- 30MW; 93,000MWh; \$60million to construct
- Corps of Engineers Dam, Pittsburgh District
- Received FERC license April 29th



- Enough to power 10,000 homes with clean renewable energy



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Development Challenges

- Complex, expensive & exhaustive Federal licensing process based on 1930 Federal Power Act
 - Environmental, historical & recreational studies
 - 5-7 yrs costing at least \$1million
- State Water Quality Sec 401 Certification (1-2yrs.)
 - Places mandatory conditions on project
 - Can be non-WQ related



Development Challenges (2)

- US Army Corps of Engineers
 - Can be uncooperative & unsupportive of private development at District level
 - AHS abandoned 2 projects in WV as a result
 - Sec 408/404 processes poorly defined, no timetable & uncertain outcome (28 months so far on Jennings)
- PJM queue process for transmission interconnection
 - Unconnected to development timetable
 - Structured around large generating companies
 - Require payment for system improvements up front



Development Challenges (3)

- Obtaining a Power Purchase Agreement with a price & term acceptable to financiers

***THIS IS THE BIGGEST CURRENT
ISSUE FOR ANY TECHNOLOGY***



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So Why Do We Do It?

- Hydro is the greenest, most reliable source of renewable energy
- Provides construction jobs & taxes for local communities
- Plants last for over 100 years
- A legacy of dependable green energy for our community & our nation

***WV IS A GREAT ENERGY STATE &
THESE PROJECTS CAN BE PART OF ITS FUTURE***



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